

WHAT IS CLAIMED IS:

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1. A ring transmission system in which a plurality of nodes are connected to each other to form a ring by a bi-directional line switched ring (BLSR) method, said ring transmission system
- 10 comprising:
- a channel-adding node that adds a channel to the ring, and transmits a node identification (ID) of said channel-adding node to other nodes on the ring when creating a squelch table; and
- 15 a channel-dropping node that drops the channel from the ring, and stores the node ID of said channel-adding node received directly from said channel-adding node or through the other nodes on the ring in the squelch table of said channel-
- 20 dropping node,
- wherein said channel-dropping node detects a failed channel through which a signal does not reach said channel-dropping node among one or more channels dropped at said channel-dropping node based
- 25 on information about a location of failure on the ring, a ring-topology table managed by said channel-dropping node, and the node ID of said channel-adding node stored in the squelch table of said channel-dropping node when the failure occurs on the
- 30 ring, and inserts a squelch into the failed channel.
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2. The ring transmission system as claimed in claim 1, further comprising a channel dropping/passing-through node that drops the channel

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from the ring as well as passes the channel to the other nodes on the ring, said channel dropping/passing-through node storing the node ID of said channel-adding node received from said channel-adding node in the squelch table of said channel dropping/passing-through node as well as transmitting the node ID of said channel-adding node to the other nodes on the ring,

wherein said channel dropping/passing-through node detects the failed channel through which the signal does not reach said channel dropping/passing-through node among one or more of the channels dropped at said channel dropping/passing-through node based on the information about the location of the failure on the ring, the ring-topology table managed by said channel dropping/passing-through node, and the node ID of said channel-adding node stored in the squelch table of said channel dropping/passing-through node when the failure occurs on the ring, and inserts the squelch into the failed channel.

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3. The ring transmission system as claimed in claim 1, further comprising a service selector node that adds a first channel from outside the ring to a second channel on the ring, and can select one of first and second channels according to communication status of the first and second channels as well as transmits the node ID of said service selector node to the other nodes on the ring when creating the squelch table,

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wherein said channel-dropping node detects the failed channel through which the signal does not reach said channel-dropping node among one or more

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of the channels dropped at said channel-dropping node based on the information about the location of the failure on the ring, the ring-topology table managed by said channel-dropping node, and the node ID of said channel-adding node and of said service selector node in the squelch table of said channel-dropping node when the failure occurs on the ring, and inserts the squelch into the failed channel.

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4. The ring transmission system as claimed in claim 3, further comprising a channel dropping/passing-through node that drops the channel from the ring as well as passes the channel to the other nodes on the ring, said dropping/passing-through node storing the node ID of said channel-adding node received from said channel-adding node in the squelch table of said channel dropping/passing-through node as well as transmitting the node ID of said channel-adding node to the other nodes on the ring,

wherein said channel dropping/passing-through node detects the failed channel through which the signal does not reach said channel dropping/passing-through node among one or more of the channels dropped at said channel dropping/passing-through node based on the information about the location of the failure on the ring, the ring-topology table managed by said channel dropping/passing-through node, and the node ID of said channel-adding node and of said service selector node stored in the squelch table of said channel dropping/passing-through node when the failure occurs on the ring, and inserts the squelch into the failed channel.

5. The ring transmission system as claimed in claim 1, further comprising a channel passing-through node that passes the channel and the node ID of said channel-adding node received from said channel-adding node through said channel passing-through node to said channel-dropping node.

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6. The ring transmission system as claimed in claim 1, wherein the channel corresponds at least one of STS1 and VT1 accesses.

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7. The ring transmission system as claimed in claim 1, wherein said ring transmission system includes a plurality of bi-directional line switched rings including a plurality of nodes, said bi-directional switched rings being connected to each other through the nodes.

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8. A method of controlling a squelch in a ring transmission system in which a plurality of nodes are connected to each other to form a ring by a bi-directional line switched ring (BLSR) method, said method comprising the steps of:

adding a channel at channel-adding node on the ring;
transmitting node ID of said channel-adding node to other nodes on the ring;
receiving the node ID of said channel-

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adding node at a channel-dropping node;

storing the node ID of said channel-adding node in a squelch table of said channel-dropping node;

5 detecting a failed channel dropped at said channel-dropping node through which a signal does not reach said channel-dropping node based on information about a location of failure on the ring, a ring-topology table managed by said channel-
10 dropping node, and the node ID of said channel-adding node stored in the squelch table of said channel-dropping node; and
inserting a squelch into the failed
channel.

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9. The method as claimed in claim 8,
20 wherein said method is not executed on an upper-level channel at said channel-dropping node where a lower-level channel diverges from the upper-level channel.

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10. The method as claimed in claim 8,
wherein said method is executed on an upper-level
30 channel at a node where a lower-level channel does not diverge from the upper-level channel.

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